

Taking ownership: Including all in teachers' school-based continuous professional development

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Abstract

The Zambian Education School based Training (ZEST) programme (2017-2022), funded by the Scottish Government, is an innovative response to government policy which engages all levels of the education system. Ministers in Zambia recognise that CPD provision based on the cascade model which takes teachers away from school is disruptive and expensive, and often not effective, as key messages become diluted by the time they reach teachers.

However, the alternative system in place in Zambia (modelled on the Japanese system of Lesson Study) has not delivered the expected gains in learning outcomes, partly as a result of a lack of resources, and partly as a result of the challenges of 'cultural transfer'.

ZEST was designed, in partnership with The Ministry of General Education and World Vision Zambia. The system preserves the aspects of current practice which work well (collaborative planning in regular teacher group meetings), and operationalises the MoGE's revised Zambian school curriculum, supporting teachers and stakeholders in making a pedagogic shift to a more learner-centred approach to learning and teaching. ZEST strengthens the existing system through the provision of resources made available to all stakeholders and adapts it for the African context. The resources draw on a wide evidence-base about the nature of teacher learning and learner-centred education. They include the Teacher Education in sub-Saharan Africa (TESSA) OER, alongside bespoke training guides, and video materials.

The paper explains the ZEST approach and presents evidence of impact, drawn from the first cohort of 200 teachers from the Chisamba district, including the challenges faced since its inception. The presentation will offer the opportunity for participants to discuss the resources developed, and to gain first-hand experience of a proposed method for making them widely available using Raspberry Pi computers which can be connected to their Smart phone.

Introduction

Education has been a priority in Zambia since independence in 1964. Yet despite significant gains in access educational outcomes remain low.

'Zambia's pursuit for quality education has remained inadequate as the key elements that are critical in bringing about improvements in learning outcomes are mostly left out. This gap has manifested itself in the low learning achievement levels across all the subsectors with average learning achievement scores at Grade 5 being below 40 percent across most subjects' (ZANEX, 2018, p26)

This is despite two significant developments: a revised school curriculum which calls for learner-centred approaches and places more emphasis on an inclusive curriculum, teaching values and skills alongside knowledge (MoGE, 2014), and an embedded programme of school based continuing professional development (SBCPD) (Jung et al., 2016).

Zambian Education School-based Training programme (ZEST) is funded by the Scottish Government, and co-ordinated by The Open University (OU) working in partnership with World Vision Zambia (WVZ) and the Ministry of General Education (MOGE). It is designed to support the pedagogic change required in delivering the new curriculum. The ZEST team are working with Provincial officials, District officials, head teachers and 400 teachers in Central Province to develop resources supporting the delivery of the new curriculum. The resources, ultimately available across Zambia, are designed to enhance the existing structures and processes for SBCPD by transforming what was proving to be a largely passive process for most teachers into a programme of active participation and engagement.

This paper locates the principles that underpin the ZEST programme within the relevant literature. It presents evaluation data collected during workshops, visits to 8 schools and observation of 15 classrooms. The findings highlight some positive changes: a more harmonious atmosphere in school, more collaborative working, more creative use of resources, an improving attitude to children perceived as being 'slow', and more active engagement by teachers in the SBCPD process. They also reflect the challenge of achieving, and measuring, sustainable changes in practice.

Supporting pedagogic change

The Revised Curriculum Framework for Zambia (MOGE, 2014) sets out a vision based on ‘learner-centred education’ (LCE). LCE is a popular policy choice across sub-Saharan Africa, yet in a review of 72 papers (from a range of global contexts) about promoting active classroom pedagogy, Schweisfurth, (2011) concludes that ‘the stories of unequivocal success in implementation are few and far between’ (p430). The reasons for this are complex, and context dependent (Barrett, 2007; O’Sullivan, 2004; Vavrus, 2009), but often seem to stem from a misunderstanding about what LCE means and a contradiction between prevailing attitudes to learning and learners and those that underpin LCE (Schweisfurth, 2011).

In a study of teachers involved in an in-service programme designed to promote learner-centred practices, Brodie et al. (2002) found that many teachers adopted some of the practices (the ‘form’) without necessarily adopting the underlying attitudes (the ‘substance’). They suggest that for sustainable change, the ‘substance’ of LCE needs to be adopted – underlying beliefs and attitudes need to be challenged. This distinction between the ‘form’ and ‘substance’ of LCE manifests itself through a focus on classroom approaches, with a common misconception being that a lesson is learner-centred if students are working in groups, for example, with little regard for what they are doing and whether learning is taking place. Conceptualising LCE in terms of attitudes and beliefs rather than particular practices is helpful and underpins Schweisfurth’s (2015) ‘minimum criteria’ for LCE. She presents the standards in terms of what makes a good lesson, but they can be applied at multiple levels within the system and provide a practical definition of LCE. They are:

- Lessons are engaging and motivate pupils to learn.
- Classroom relationships are based on mutual respect.
- Learning challenges pupils and builds on existing knowledge.
- Dialogue is used in teaching and learning.
- The curriculum is relevant to learners’ lives and values a range of skills including critical thinking and creativity.
- Assessment tests a range of skills and gives credit for more than recall of knowledge.

(adapted from Schweisfurth (2013), p146)

These criteria provide both a definition of a learner-centred teacher and a framework for the analysis of teaching. They form the basis of our work in ZEST and underpin the model for change.

A model for change

Implementing change requires people to change their behaviour. The design of ZEST draws on a model for change described by May & Finch (2009); evidence from the Teacher Education in sub-Saharan Africa (TESSA) program (Harley & Simiyu Barasa, 2012); and ideas about teacher learning and teacher development which emphasise the importance of collaboration, participation in practice and reflection on practice (Anamuah-Mensah, Banks, Moon, & Wolfenden, 2013; Shulman & Shulman, 2007).

May and Finch identify four stages in implementation:

- **Coherence** - actors collectively invest meaning in the new practice, in their context.
- **Cognitive participation** - actors interpret and ‘buy in’ to the new practice.
- **Collective action** - actors operationalise the new practice and mediate it within the appropriate networks.
- **Reflexive monitoring** - continuous evaluation of patterns of collective action, including making judgements about the utility and effectiveness of the new practice.

For ZEST, ‘coherence’ means designing a programme that fits into the existing structures and processes; ‘cognitive participation’ involves establishing a shared understanding of the requirements of the new curriculum and LCE; ‘collective action’ operationalises the changes through collaborative working in teacher group meetings (TGMs), and ‘reflexive monitoring’ ensures that all stakeholders are learning from and developing the programme.

The design of ZEST

The existing SBCPD programme in Zambia is based on ‘lesson study’ (Jung et al., 2016), an idea imported from Japan (see table 1 below) where, through collaborative planning and observing model lessons, a series of effective lesson plans will emerge, which all teachers can use.

The shortcomings of the current system were explored at an early collaborative planning workshop in Zambia with key stakeholders including head teachers and teachers. During this workshop a number of issues with ‘lesson study’ were identified, which ZEST sets out to improve. These are set out in Table 1.

Table 1: Lesson Study issues and ZEST responses (evidence from a workshop, February 2018)

Lesson study	Issue	ZEST response
Identification of a teaching problem	This is frequently done on a random basis, with the result that there is limited systematic building of skills. The problems are often subject-based and not relevant to all teachers.	Working with 34 teachers and head teachers 9 teaching approaches were identified (3 per term) that would support the delivery of the new curriculum that would form the basis of the TGMs.
Regular teacher group meetings in which model lessons were planned	Owing to a lack of extra resources which would enable more focused planning, TGMs often did not take place, or involved administration rather than discussions of teaching and learning.	A training handbook provides activities for teachers to do together in TGMs assisting them in understanding the nine teaching approaches. Teachers work in small groups planning activities to try in their lessons using the teaching approaches. TESSA OER are available to provide ideas for activities
A model lesson which one teacher teaches and others observe	The same few teachers volunteered for the model lessons. The topic was not always relevant to all teachers. The lesson is often staged with a group of children being gathered for a 'one-off' lesson.	All teachers try the planned activities in their own classroom
Critique of the lesson and re-planning	The critique was often robust and unpleasant for the teacher who had put themselves forward. This deterred people from volunteering and ensured that for most teachers, lesson study is a passive process.	Teachers discuss how the activities went and reflect on the experience. They plan another activity, using the same approach, but on a different topic. The 'trying' and 'reflecting' become part of normal teaching.
A repeat of the model lesson taking account of the changes	Teaching the same lesson again is not authentic for the children involved. In the absence of resources it is difficult for teachers to think of new ideas.	Teachers try out the new activity and, if possible, observe each other for short periods of time. Again, they reflect on how it went.

ZEST uses the same structures and process as the existing programme with two significant innovations: the 'problem' is mastering a progressive set of teaching approaches (eg questioning, pair work, using local resources) that will help teachers deliver the new curriculum, and the 'model lesson' is replaced by the expectation that all teachers will try out the planned activities in their own classroom and reflect on how they went providing a more equitable and inclusive experience for all teachers. The strengths of the current system - regular meetings, collaborative planning and reflection - are preserved in a year long programme which focuses on active teaching and learning.

'Cognitive participation' involves teachers understanding that LCE is not simply a set of approaches but rather a set of attitudes and values that underpin teaching and understanding how this translates to practice. This is challenging as teachers have not observed or experienced being taught in this way. Workshops with the first two cohorts of teachers (200 in each cohort) involved activities based on LCE and introduced teachers to the TESSA OER¹.

The TESSA OER (Wolfenden, 2008) developed in Africa by Africans, provide examples of classroom activities which support active participation in learning. They are available in digital format on- and off-line, are free and can be adapted as required. For ZEST, each school was given multiple printed copies of the TESSA OER.

Experience with TESSA suggests that trying out the activities suggested, elicits new responses from students which in turn encourages teachers to try more activities and eventually leads to new attitudes toward learners (Murphy & Wolfenden, 2013) – cognitive participation. In this way, teachers gradually embrace the 'substance' (Brodie, Lelliott, & Davis, 2002) of LCE..

Thus, ZEST is strengthening the current system through the provision of a toolbox of resources which are in the hands of each teacher. These consist of:

- a training handbook describing nine key teaching approaches with activities for teachers to carry out in their TGMs and classroom interactions
- a facilitator guide which assists peer teachers to run and manage TGMs in a practice-focused manner

¹ <http://www.tessafrica.net/>

- a reflective journal for them to record their practice, successes and challenges
- a curriculum guide linking the Zambian curriculum to relevant TESSA resources
- the TESSA OER (as a printed library).

An innovative element of the ZEST approach is that the resources given to the teachers are not prescriptive in any way. They provide tools with which to develop their teaching techniques but the way in which these techniques are embedded within individual teachers' classroom practice is left entirely up to them; the resources are designed to be flexible and adaptable to all ages and needs. This school-based approach to teacher development avoids the cascade model of taking teachers out of school for training where 'The cascade is more often reduced to a trickle by the time it reaches the classroom teacher' (Hayes, 2000, p135) and ensures that every participant receives the same quality input, as all the training elements of ZEST sit within the training handbook and reflective journal.

The study

The purpose of ZEST is to demonstrate change in three key areas:

1. Improved professional skills
2. Positive impact on learners' outcomes
3. Increased collaboration between teachers

In this study we will focus on answering two questions based on evidence gathered from 200 Cohort 1 teachers, school leaders and government officers in the Chisamba district:

*What are the teachers' perceptions of the impact of ZEST on their professional practice?
What are the perceptions of headteachers, School In-Service Coordinators (SICS) and teachers of the impact of ZEST and on how they work together?*

Data was collected during workshops through presentations from the teachers, open-ended reflective questions, the outputs of tasks and field notes. A small-scale independent study was also carried out in March 2019 in which enumerators visited 8 schools observing 15 lessons and completed interviews and lesson observations based on the instruments used in the baseline study. These are summarised in Table 2, indicating who the data provided refers to:

Table 2: Sources of data

Data source	District	HTs	SICs	Teachers	TGMs	School activities	Challenges
Cohort 1 evaluation (March 2019)		X	x	X	X		
August 2018 Workshops	X	X	X			X	X
Sept 2018 School presentations				X	X	X	X
Dec 2018 HT		X			X		X
Dec 2018 SICs			X		X		X

Each source of data was data was analysed and evidenced against each of the three purposes of ZEST.

Findings

Overall the picture that emerges from the data is mixed. Perhaps unsurprisingly some teachers are more confident in using the approaches than others. However, after just three terms of activity, there are encouraging signs and lessons to be learnt.

Classroom teaching

Observation of 15 lessons showed that most cohort 1 teachers used a range of activities in their lessons and learners were involved in different tasks although teachers mainly 'asked questions' and 'presented or explained information to learners'. The first teaching approach teachers practiced as part of ZEST centred on questioning so this indicates that this approach was one that teachers had gained confidence in and were able to put into

practice regularly in their lessons. However, learners were mainly involved in listening to the teacher which can be considered a passive activity.

In relation to more interactive activities such as group and pair work, the data collected in the observations indicated that the use of pair work and group work was limited and not all teachers seemed to have used it in the observed lesson. This suggests that there have not been the sorts of improvement in classroom teaching that were expected. However, it should be noted that this was a very small sample. Also, the observation form focuses on the amount of time students spend talking to each other, which requires group work or pair work. If the teacher was concentrating on some of the other approaches (eg storytelling and role play, using local resources) then there would not necessarily have been opportunity for student-student interaction. Classroom observations and evidence from workshops have highlighted a significant issue with the ZEST approach: the possibility that teachers see the approaches as discrete and exclusive rather than understanding that an effective lesson will consist of several linked activities. This is being tackled with cohort 2.

Focusing on the three key areas where change is required the picture is encouraging.

Evidence of Improved professional skills

Teachers and school in-service co-ordinators commented on how they had improved their professional skills:

‘In comparison to last year I feel like a real teacher. Things that ZEST has taught me will help learners in my society to be good students’ (SIC, Dec 2018)

‘I am able to perform well in class in comparison to last year’ (SIC, Dec 2018)

‘I have learnt how to involve all learners in my lesson delivery’ (SIC, Dec 2018)

‘I have made some teaching aids for science, using the local environment for soil drainage’ (SIC, Dec 2018)

They have also noticed improvements in their colleagues, for example, one Head teacher commented in a presentation about ZEST in her school (Sept, 2018) that teachers are starting to target their questions according to attainment levels more effectively. Other comments include:

‘Teachers now plan their lessons’ (Evaluation report)

‘The teaching approaches have made teaching multi-grade classes easier’ (Evaluation report)

Evidence of Impact on learners

In three terms it is not possible to provide a measure of improved learning outcomes, but comments from teachers and head teachers suggest that:

‘Pupil performance has improved’ (Evaluation report)

‘The response from learners has improved greatly’ (Evaluation report).

There are also comments referring to the greater participation by pupils and, in some schools, improved pupil attendance suggesting that lessons are more engaging.

Perhaps most encouragingly all the data sources had comments implying that learners who had been considered to be ‘slow’ or ‘shy’ were more involved in lessons. Many teachers commented on the fact that ‘slow’ learners are able to do more than they expected and that through adopting these new approaches they have become more aware of the individual needs of their students.

‘I have made some learners who were shy, to be public speakers through group and pair work and reporting back to the whole class. I have also instilled self-esteem and self-confidence in the learners’ (SIC, Dec 2018).

Evidence of more collaboration between teachers

The evaluation report suggests that 57% of schools (as opposed to 43% in the baseline) had 3 or more TGMs per term, although it varied between 1 and 12 based on the size and number of shifts² the school offers. Attendance

² Shifts: due to high pupil numbers, some schools have to offer 2 or 3 shifts with teachers having to teach different class in each shift.

at those meetings had also improved with the majority of schools indicating it was excellent at over 80% (Evaluation report).

This was also mentioned in presentations given by schools after term 1 in September 2018.

‘A few schools mentioned that attendance at TGMs had improved and that there was more team work amongst teachers. Some teachers are more motivated and are beginning to combine the approaches. They are more aware of slow learners and are noticing what they can do, more as a result of pair work. They are beginning to understand that change takes time and lots of practise is needed with each approach, although many already feel that their questioning skills have improved.’ (Field notes, September, 2018)

The replacement of the model lesson by individual teaching is also popular:

‘It has improved a lot in the sense that last year I was a bit reluctant as only one teacher used to present a lesson while others observed. This year we planned collaboratively and taught individually which made it live’ (SIC, Dec 2018)

The affective domain

Taking an overview of the data, a theme which has emerged is the quality of the relationships in school; teachers are beginning to see themselves as part of a professional community of practice. This was summed up nicely by a group of head teachers who had been asked to summarise some of the changes in their school

‘It has created harmony and reduced friction amongst teachers’ (Sept, 2018)

‘I feel happy and proud because the ZEST approaches brought in unity, peace and all togetherness among teachers. Learners have improved academically, socially and physically due to the use of the approaches, teachers are able to explore more using the ZEST/TESSA resources.’ (HT, Dec 2018).

‘I feel proud of myself. The content has really empowered me as a SIC and it has changed the way I view teaching eg: involving all as well as planning collaboratively.’ (Dec 2018; SIC Chisamba)

‘I now have more confidence to lead my teachers’ (SIC, Dec 2018)

‘lots of things make me feel proud including my learners are able to read and write properly; work is easy for me using local resources, etc..’ (SIC, Dec 2018)

Discussion

Sustainable pedagogic change takes a long time, and through the reflexive monitoring processes we have become aware of a number of challenges which we are addressing with cohorts 2 and 3.

All the teachers were provided with a ‘Teacher notebook’. The idea was that they would record their responses to activities that took place in the TGM (eg write down three closed questions and three open questions that you could use in your class next week. Share them with a colleague), alongside their observations and reflections on their own teaching. Despite the fact that the notebook is personal to the teacher, it has become clear that there is confusion about what teachers should write in these books. This perhaps reflects a lack of agency amongst teachers. They are used to being told what to do and have floundered under the instruction ‘you can write what you want – whatever is helpful to you’. Rather than produced a detailed list of things they could write down, we have persisted in encouraging autonomy, but have provided a few examples by photographing the notebooks of some teachers and sharing these in the updated training materials.

The other key challenge is navigating the TESSA library. We have not produced prescriptive lesson plans as that would not be possible across the whole primary curriculum (and a key aspect of ZEST is that it is a whole school initiative). However, we have provided access to the TESSA library which contains contextualised classroom activities which involve the active participation of learners. It takes time for teachers to become familiar with the extent of the library and, perhaps more significantly, in the past, teachers have not been encouraged to think for themselves in this way. Crucially the TESSA OER have been approved by the Ministry of General Education. The learning that we are taking forward into cohort 3 is that school leaders and district officials need to be harnessed to support teachers in using TESSA.

The third challenge comes from the fact that the Lesson Study cycle is deeply embedded in Zambian schools. However, the shift from passive observation of a model lesson to active participation in trying out new approaches in their own classroom, is beginning to take place. From recent workshops with cohort 2 there is some evidence that teachers now try out an approach in a model lesson and then practice it further in their own classrooms. This suggests that teachers are beginning to regard TGMs and their own classrooms as ‘safe spaces’ in which to try new approaches.

The final challenge is in engaging all levels of the system. The revised Zambian school curriculum is asking teachers to work differently with learners. This means that District officials, head teachers and school in-service co-ordinators need to work differently with teachers. An on-going challenge is the re-conceptualisation of their role away from ‘monitoring’ to ‘support and monitoring’. Field notes record changes in atmosphere in workshops when officials arrive – previously forth-coming teachers keep quiet. They are very keen to ‘inspect’ teachers notebooks, which complicates the message that they are for the teachers to complete in a way which is useful to them. This is being tackled through a process of capacity building in which District officials are being supported in running more participatory workshops. An implementation guide focuses on scenarios which model behaviours consistent with a supportive role.

ZEST positions teachers as agentive professionals and provides support in developing skills through the processes of collaboration and critical reflection on practice. The programme thus models the learner-centred attitudes and values that underpin the revised Zambian School Curriculum. If learner-centred education is conceptualised in this way, then despite the lack of concrete evidence from classroom observations at this stage, the evidence from the teachers themselves is very encouraging.

Conclusion

Seen against interventions with a specific focus (eg Read to Succeed – USAID), ZEST is an innovative initiative. The aim is to change attitudes to learners and learning, through whole-school engagement including all stakeholders. Teachers are supported in becoming more autonomous, and more agentive, and TGMs are positioned as a space for equitable collaboration, discussion and reflection. The challenges such as what to write in the notebook and how to find examples of relevant activities in the TESSA library will perhaps prove to be the projects’ strengths as it is through engaging with these that real professional learning will take place. We need to be patient!

A key challenge as we move forward with ZEST is how to make resources available to teachers without relying on print and ensuring they are equally accessible by all teachers. We are working with World Vision and District officials to explore various innovative solutions, including the use of Raspberry Pi computers (relatively inexpensive) which ‘speak’ to the teachers’ mobile phones. This project has the opportunity to make a real contribution to the ‘Ed Tech’ debate by solving a real problem and ensuring the sustainability of the practices introduced through ZEST.

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